Brad Hancock: I am the Facilities Energy Program Manager for the Department of Defense, which basically means that I have to develop policy based on new legislation; I have to try to figure out what the legislation is trying to do. I work with the interagency taskforces to develop guidance for the new legislation and then I – on the opposite end, I collect all the data and all the reports from the services and the components and try to compile that stuff and submit it up for the annual interagency report and other data calls.

So DOD's asset management strategy, not just for energy but for all our facilities is we try to make it a comprehensive approach. We developed a plan a couple years back and published it last year and we're going to continue to try to redevelop it on a biannual basis. It's called a Defense Infrastructure Strategic Plan or the DISP and it's available on the web if you just Google this title, you can find it. And there's also an infrastructure investment strategy, which is linked to that DISP. On the energy and utility side, we obviously try to use conservation and demand reduction. We're working hard with facilities audits, of course EISA's going to make us do even more of that. We've got the energy conservation investment program, which we'll talk a little bit more about later but it's a small pot of money that we do a direct investment with. Energy savings performance contracts, which I'm sure you're all familiar with and the utility energy service contracts, which are linked to those.

We're doing some enhanced use leasing, some power purchase agreements, which are similar but slightly different. We're pushing renewable technologies and all the renewable technologies, it's a way to get to a certain extent cheaper energy, longer lasting energy and energy security at the same time. Sustainable design and development practices or you may refer to it as high performance buildings, we're linking those two together and all of the services develop policies at this point that they're going to a minimum of LEED silver on all their new designs. The bigger issue there that we have to look at is all the existing buildings and how we're going to work with those existing buildings. We've got a number of sustainable infrastructure and utilities privatization issues going on. Awareness programs, each of the services has an awareness program and then we obviously have October energy awareness month that the department works in. We've been working in change of light throughout the services. We partnered with DOE to do that. We've got a few other programs going on.

This is a really old slide that we started to update when the executive order came around and we started working on updating it

to link it back to the executive order and then EISA ’07 came around and we kind of gave up at that point, we said there’s too much happening too fast to try to keep linking all this stuff back. But what this – this is still a valuable slide and it’s not really out of date even though it’s a couple years old. What this does is it links back to Division for the Energy and Utilities program is 100% reliability utility services to the war fighter and if you link that all the way back towards the left, it tells you that the programs that are going into that and how they’re going across to getting that 100% reliability.

Certain structures that we really can’t do a whole lot to control the – or conserve the energy at, like again I’ll use radar towers as an example, you just can’t shut down the energy going into the radar tower, you don’t have the radar anymore so we’re allowed to exempt certain buildings, certain structures that have a national security function. I’m proud to say that in ’07 we did cut our total energy expenditure by about $600 million out of a $13 billion budget, that’s not a whole lot but every little bit helps. And so that’s where we stand today or in ’07.

EPAct ‘05 got eclipsed by – most of it got eclipsed by the Executive Order 13423 and EISA ’07 so a good portion of this doesn’t really exist anymore. We still have the 30% better than ASHRAE requirement for our new designs. DOD has got a challenge here in that most people when they get ready to build a building, you know it’s a year or two years from the decision to build a building till you start putting stuff in the ground. Because of our budget cycle, it’s a minimum of about five years and sometimes out to 10 or more from the time that we decide to build a building until we actually put a spade in the ground. So when they tell us we have to start designing our buildings 30% better than ASHRAE, we can’t really do it for next year or the next year or maybe even the next year because we’ve already done our design documentation and we’ve already done our budgeting and we’ve already put it in the budget for the next five years, you know the next six years. So changing our design like that is very much like turning an aircraft carrier. You can’t just turn it on a dime. You know it takes a long time to get it slowed down, get it changed direction and get it moving in the new direction but we are doing that.

Executive Order 13423, again eclipsed a good portion of what was in the EO, it increased the 20% reduction to 30%, I’ll show you in just a few minutes that we’re well on our way along that guide slope. It had a new requirement for renewable energy. The old

requirement was renewable energy that's put in place after 1990. This just moved it up to 1999. It implemented a water conservation measure that we had never had before. We had always been told to conserve water and we had done that but this put a numeric number value on it and I'll tell you this is an area that I think we're going to be kind of hurt because we had taken the old law to heart and over the past 7 years, well actually about 4 or 5 years, we had reduced water consumption nearly 30% and when EO came along, it set a new baseline so this is definitely one of those cases of no good deed goes unpunished. Our baseline is now 30% below where we were a couple years ago so we're starting with a really reduced baseline where we have to reduce from again.

The rest of that stuff I'm sure you guys have already heard about. I'll point out one more there, the 15% of existing inventory have to incorporate the high performance buildings guidelines. We're not going to get there through MILCON by 2015. We're not going to replace enough of our buildings through our military construction program, that 15% are going to be LEED silver. I think the calculation we did said we may get halfway to 15% through the MILCON program so that means the other 7 ½ percent is going to have to come from the existing inventory. So we've got to get out there and we've got to figure out how and what we're going to do to those buildings to make them compliant with the federal MOU.

Percent of electricity metered, you can see the numbers there. We're moving along fairly well, a little bit slow on the advanced metering but we're moving more and more every day to do that. I know the Air Force is really pushing on theirs to try to get it to – get it done. I'll put you on the spot here for Brian, what's your current?

Male: We're probably about 77%.

Brad Hancock: What's your – you guys have it all budgeted out over the next couple years though don't you?

Male: Correct.

Brad Hancock: So within the next 2 to 3 years the Air Force is budgeted out to do all of that and I commend them for that.

Male: Through 2009.

Brad Hancock: Okay so by '09 and I commend them for that because again as I talked about our budget process, they were able to go into their

essentially established budget and carve a wedge out to be able to do that so it is very important to them. New designs 30% better than ASHRAE; when we submitted we were at 39% again and that goes back to that budgeting issue that we just you know our timeline is so long that we couldn't meet that requirement. I am proud to say that OMB worked with us, they understood that budgeting issue and they allowed us to go ahead or they awarded us a green rating even though we didn't make green on this criteria because of the budgeting issue. We resubmitted our fiscal year 10 proposed list to them, all of which will meet the 30% design criteria.

And last but not least, in 2005 the Deputy Undersecretary of Defense established a goal for Department of Defense to – and the wording is very important, produce or procure 25% of our electricity through renewable energy means. This differs from the above criteria because the above criteria requires to actually consume that energy. In certain cases we don't consume the renewable energy but we do produce it and in our mind, if we can produce it, and somebody else consumes it, it still takes coal off the grid and it still takes other you know petroleum off the grid so in our mind the production is important as the consumption. If we continue to produce, even if someone else is consuming, we're still helping the nation's energy security issue. So under this criteria we're currently at 11.9% and again, I'll tell you that we're well ahead of the glide slope to reach that 25% by 2025.

EISA came long at the end of '07 and we're still in the process of trying to figure out what some of the – develop some of the guidance to the interagency groups. Some of this stuff is a little bit nebulous and we don't exactly know what we're going to do or how we're going to do it but we are working to implement everything we can. It codified the 3% annual reduction that the EO had. It requires federal energy managers for all of our appropriate facilities, which is a minimum of 75%.

Energy and water evaluations for 25% of our facilities every year or every facility every 4 years. I'll tell you that that is going to be a large, a real challenge. There's a considerable amount of money that's going to be spent on that. I saw a brief – one of the sessions that I sat in, the low-level numbers that they gave, I calculated out based on our facilities and it's going to cost us about $112 million a year at a minimum. That's the very lowest value just to go in and start the evaluations for these.

A web based tracking tool has to be developed so that every time we do one of these audits we start entering the information into there. Again I think this is a good thing but it's going to be highly intensive, highly manpower intensive. Metering data entered into the web, hopefully we can do most of this automated or at least through some automation processes. It requires OMB to issue scorecards, which I think previously there was actually no legislative requirement for that so this is going to continue that process.

Here's one that we're really struggling with and that's reduce the use of fossil fuels in new and renovated buildings by 55% by 2010 and 100% by 2030 and there's a couple other little divisions in there. Again I talked previously about our budgeting process, by 2010, 2010 budget is essentially set at this point. We got some minor changes that we can make to it between now and then but I'll tell you that our design criteria is not set up right now to reduce those buildings by 55% by 2010. Beyond that, we're not even really sure what reducing it 55% means. If we use renewable energy in place of coal fired, is that reducing the energy or do we actually have to reduce the input? So the guidelines for these are important to figure out and we're working hard with DOE and the others to figure out what these guidelines are going to be.

Green building certification system for the federal government, that's coming up pretty quickly and it – I don't think it's going to be a shock to anybody that's probably going to be LEED. The level of LEED is going to be still a little bit up in the air. Large capital investments must be the most energy efficient design, this life cycle cost effective. I'd like to say that we've been doing this all along. I'm not sure that we have been but we've required the services to figure out a process for reviewing all these to make sure that it is and it also added natural gas and steam metering requirements but DOD had pretty much already implemented those as it stands.

A few more EISA issues there. It made ESPC a little bit easier for us to do. It allowed the sale of renewable excess energy. It allowed some savings to be retained on-site. We already had some legislation there but to be honest with you, haven't figure out how to do that. One of the issues that people always come to us and say is you know, "If I screw in a compact florescent, as opposed to an incandescent, I'm saving X amount in energy. Can I keep that money for next year?" And the answer is sure, if you actually save the money you can keep it but the problem is your energy's going up faster than your reduction is coming down so you're actually

still spending more money than you did last year so there's nothing for me to put in your piggy bank. Sorry. So until we can figure out that issue, we're not going to ever work this retention of savings issue out. So I think that's enough said on that slide.

Then NDAA 2008, the National Defense Authorization Act of 2008 came along and it gave us some ability to do a few things. It allowed contracts for renewable energy up to 10 years. Previously we'd been limited to five. Even with 10 years, it's still pretty difficult for us to do a contract where somebody builds a photovoltaic plant or builds a wind turbine plant or something like that because most of those things have a 15, 20, 25 year payback so we really need to be able to do longer term contracts for these renewables if we're going to have other people do them for us.

It removed the ESPC congressional notification requirement, which makes ESPCs a little bit easier to do. It redefined alternative fuel vehicles and this was a little bit weird because this went back to a 40 USC statute as opposed to a 10 USC statute, but it allows a few other things to be classified as alternative fuel vehicles that didn't use to be and one of the big ones for us is that second hash mark there; the others that demonstrated to achieve significant petroleum reduction. We've been arguing for a number of years on the transportation side that we're replacing small sedans with neighborhood electric vehicles and low speed vehicles. Unfortunately those are not classified as vehicles. They are equipment is what they are so when I pull a – or when my fleet managers take a Ford Fusion out of the equation and replace it with a neighborhood electric vehicle, it really doesn't help us do anything towards getting towards our goals except for the reduction in petroleum. So we're working with EPA and with DOE to try to designate some of those things as alternative fuel vehicles so we can get some of the extra credit for those.

NDAA '08 required the use of energy efficient lighting in all our new construction. Again, this is something I think that we're pretty much doing already but it codified it. It required a renewable energy report, which we completed and is now available on the web site and I'll give you my web site later. You can download that if you want to and it also required a water conservation report, which again was completed and submitted and it's also on the web site.

All right here's more of what you really wanted to see. This is the long-term graph from DOD from 1985. I'll tell you that the redline is the important line. That was the EO 13123 goal, which was 2%.

Whether a service is above or below that goal, they were all tracking pretty much along with it so we were doing fairly good. You'll see a blip in there in 2001 and that's where we lost ESPC authority. So because of losing that authority we didn't quite reach the goal of 30%.

This big hump right here, we didn't start using a lot more energy than we used to use. What that hump is, is in 1985 we had two categories for facilities. There was a standard facility and there was an industrial facility. All of this data is based on a standard facility. The industrial facilities used a lot more energy obviously because they were things like labs, radar towers were in that category at the time and when EPAct 2005 came along, it combined both of those back into a goal facility or an exempted facility so it's really hard to make this data look good. But what happened was this jump is just the inclusion of all the industrial or most of the industrial facilities into the goal category.

And then again, this line is the EISA requirements, this was the EPAct requirements so our slope is getting worse, or better, depending on how you look at it; it's harder to meet. This is the real data from the last couple years. The pink line is where we need to be and you can see that all the services and DOD as a whole are below that line. You can make an argument whether we're on slope, not quite on slope or a better than slope. Some of the services are a little bit better than slope. Some of the services are not quite on slope. But overall we're doing pretty good and we're below the line and continue to expect to meet the requirements.

Renewable energy progress; this goes back to the slide that I talked about a little bit earlier that we have a couple of different measures on renewable energy. The red line here is the EPAct 2005 goals; 3% through 2009, 2009 to I think it's – what is it, 13 is 5% and from 13 out is 7 ½% so it's a stepped up ladder here. This is where we currently stand and then our 20 by 25 goal would be a straight line between here and you can see that we're considerably above that glide slope. The little light blue line, it's hard to see there is essentially the glide slope that we're on.

Shifting over to transportation a little bit, EPAct '92 gave us some definitions for alternative fueled vehicles and required us to procure 75% of our vehicles in a metropolitan service areas alternative fuels. I will tell you that we have always blown this metric out of the water but it's now going to cause us some problems and I'll get to those problems in just a few minutes. Well actually I'll talk about a little bit of it here. There's an additional

requirement now that we use alternative fuel in all of those vehicles, 100% of the time if it's available. The problem is it's not available and we need some commercial help in making that stuff available. This is one of those field of dreams issues, if you build a station we will come.

EPAct of '05 gave us the ability to waiver vehicles, waiver these alternative fuel vehicles that don't have a fueling station within either 5 miles or 15 minutes, whichever is less. The waivers essentially based on fuel availability. There is a waiver based on cost, I think it's almost never been used. Most of our vehicles that are alternative fueled are GSA leased so the fuel cost is in the lease so cost is essentially not a factor, although we don't want you charging us you know seven bucks a gallon for the E85. I don't want you charging four bucks a gallon for unleaded either but you're going to do it anyway so – but anyway 66% of our vehicles were waived in 2007 because there was no fuel available. So we've got thousands and thousands of vehicles out there, I think we have roughly 42,000 AFV's right now and 66% of those do not have alternative fuel available within 5 miles or 15 minutes.

Executive Order 13423 also had some transportation provisions in it. It set a petroleum consumption baseline for '05, requires us to reduce it 2% annually, total increase the total presumption of alternative fuels by – actually it's called non-petroleum by 10%. In this category I always get confused whether DOE allows us to count compressed natural gas and LPG but the guidance is out there and you can take a look at it. It requires us to use plug-in hybrids when they're commercially available and we would love to see them commercially available but they're not quite there yet. And it revoked an old EO that had some petroleum consumption reduction measures in it.

EISA 07 came along, it's got a few things in it similar to the facilities side that we don't exactly know what they mean. This one's been going around and around. You've probably seen some stuff in the news about it, prohibits the procurement of a synthetic or alternative fuel, this is more lifecycle greenhouse gas intensive than standard petroleum or conventional fuels. Part of the problem is there's no real definition for conventional fuels. If you look at any given refinery, they're going to be getting some of their oil from tar sands, from Canada, they're going to be getting some of it from the Middle East, they're going to be getting some of it from Mexico, they're going to be some from Argentina, some of it from Canada so it's this large mix of stuff.

If you look at the ASTM standards, tar sands is defined as a conventional fuel but if you look at the legislative intent that was behind this, tar sands is not defined as a conventional fuel. And if we cannot define tar sands as a conventional fuel, then we essentially cannot buy any gas out there because we don't know how much tar sands it's got in it. So we're working diligently through EPA and through others to try to get this either revoked or corrected or an administrative change to figure out exactly what it means and how it affects us. The essential intent behind this was to keep us from buying without some kind of carbon capture and sequestration, which you may agree or disagree, it's a good or a bad idea. But like most legislation, it caught a few other things up in it and it's causing us some major issues.

By the way, the numbers there in parenthesis are the sections of EISA that this applies to. If you want to go look those up, that's why I did that. Section 141 prohibits the acquisition of any vehicle that's not a low greenhouse gas-emitting vehicle and that's the way the legislation's written. Again, don't really know what this means, there's no definition for that. We're trying to work with GSA, again we buy or get most of our vehicles from GSA to figure out what this means. Unfortunately GSA doesn't know what it means. We're putting in our purchase requirements right now for the vehicles for 2009 and if nobody knows what this means for 2009 we may or may not be violating the law when we procure a new vehicle for '09.

It codified the reduction, this is long verbiage here because it was some technical issue with the way they wrote their legislation. This is the way the legislation actually reads but I think there's a technical correction coming out to make it be exactly the same with the Executive Order. It requires us to develop a plan to comply with requirements and another somewhat big one is that it requires us to install one renewable fuel pump at each federal fleet fueling locations. DOD got an exemption for anything less than 100,000 gallons per year. None of the other federal agencies got that exemption. It was specific to DOD.

So we've gone out and we've figured out where those fueling stations are. We figured out which ones do and don't have the alternative fuel pumps yet. We're still working on the guidance, what we think it's going to say is if you already have a fuel pump there, you don't have to install a new one. That would be kind of silly. And we're also trying to work to say that if there is a commercial station with alternative fuel available within 5 miles or 15 minutes, you don't have to install a new one. Again that would

be a little bit silly for us to install one when there's one already there available. Again, this an area where we really want to see those commercial pumps available because we don't want to have to be installing our own. We'd rather come to buy the E85 from you than have to do our own infrastructure.

Utilities privatization, couple slides on this. We're still doing utilities privatization. It's still not a core ownership of the department. Our missions need to be properly supported and historically we haven't spent the money that we need to spend on our utility systems so we're trying to get other people to maintain those because they know how to do them better and we need their practices to do it the best way and the most economical way. The current guidance that's out there says privatize all the systems unless it's a security issue or it's uneconomical. We have a few security waivers. We have a multitude of economic waivers. We still have a lot of systems that are under the privatization process.

Competition is important to us but even without competition, as long as we can make a justification we'll do it. And we're using sound economic analysis to make those justifications. The program objectives again are to keep the – to upgrade the infrastructure to industry standard, capitalize upon economies of scale and knowledge and privatization is a preferred tool for providing utility services at all of our installations. We've had some concerns with utilities privatization over the years that it's going too slow, it takes too long. A company puts a lot of money into doing a proposal and we decided it's not economically viable. We're doing what we can to fix those problems.

The 431 waiver says that you don't have to use CAS, Cost Accounting Standards. We've extended the program. You may think that extending the program is a bad idea because it's going to make it run out longer but what it has allowed us to do is when we first started this program, we essentially put everything in and said do it all in two years and that was completely unrealistic. And we said okay, 2 years is unrealistic, do it in 4 years. Still somewhat unrealistic so we're extending it out.

Instead of trying to do everything now where a provider has to bid on 7 systems at the same time, we're trying to make it a little more palatable to give you more time to work on it and give us the ability to spread our workforce out. There have been some issues with the availability of contracting officers to be able to do this and this is another one of those ways of spreading it out so as making it easier for you hopefully. And we are using those lessons learned to

try to make it better for the future. This is where we stood as of January with utilities privatization. I'll tell you that there's been a couple of more systems awarded since then. The exemption's there, the 635 is the vast majority of economic – some of the services are talking about when they finish their current program or even before they finish their current program, going back and taking another look at those.

So a utilities privatization summary is that our objective remains unchanged. We stretched the schedule out a little bit to allow better use of resources and we're still trying to work for you guys to make this win/win.

So the current OSD focus, metering is big for us. We've got to meter all our facilities, all our applicable facilities by 2012 and we need some commercial benchmarks or we're working for commercial benchmarks to figure out what the data coming out of that meters mean to us. The data means nothing if you don't have something to compare it to.

Our strategic investment plan, you know we're trying to match our funding to the best available opportunities and we're trying to maximize the use of alternative financing where it's applicable. EISA program is a small, is a line item with the military construction budget. They give us a lump sum of money and we use that to go out and do energy conservation or renewable energy and in some cases water conservation projects. For '08 it was 70 million. It's increasing in the president's budget, 120 million in 2013 so we're slowly ramping that up.

I will tell you because it's public knowledge that the current Senate Appropriations Committee Bill increases the '08 amount from 80 million to 160. That will be great if it goes through but it has to be conferred with the House Appropriations Committee and it also has to be included in the Senate and the House Armed Service Committee authorization bills. So if all four of those can come together and we can get the 160, we can do a lot of good work with it. We're trying to again, increase the use of alternative financing through ESPCs, UESCs, power purchase agreements, EULs and any other way that we can figure out to. We're really focused on increasing the use of renewable energy.

Every year the EISA, the percentage of EISA going to renewable energy has increased greatly. We're up to close to 50%. The Navy has said that all of their EISA money is going to renewable energy. We'd like to complete the utilities privatization program. Again

it's been extended out currently to about 2015 and we'd like to get a little bit more comprehensive approach to our mobility and transportation energy and we're working sustainable design templates.

I said earlier that my portfolio essentially is just facilities energy with a small bit of transportation. I only manage the fleet vehicles. DOD is taking a very hard, very strong look at all the mobility aspects, the planes, the trains, the ships, you know the forward operating bases and they're doing what they can to start reducing the energy there by putting things like – previously when we bought a ship in the Navy, the fuel economy really hasn't been a factor. The cost of the fuel hasn't really been a factor. They're starting to put key performance parameters in all of those acquisition areas to make fuel a factor, the cost of the fuel, the cost of the supporting factor and the decision to buy.

And finally we've developed a partnership with DOE to work on three issues that are related to each other; one is net zero installations. You probably heard about net zero buildings where you try to create as much energy within the building as you're using on a net basis. We've decided that doing that on a building-by-building level is probably not viable. So we're going to try to do it on an installation level and that is a comprehensive approach where we first try to reduce the amount of energy that we need through things like you know better use of the energy in the buildings, more insulation, day lighting, that kind of stuff, sustainable issues.

Secondarily we want to replace the energy that we still have to take on board through renewable or – well, through renewable on-site. The department overall doesn't see that buying a renewable energy certificate from Texas for a base in North Dakota does anything for us. So what we want to see is photovoltaics on the base or very near the base or we want to see a windmill on the base or very near the base. That gives us energy security and a more sustainable installation. Along with this, there's a group that's working financing, primarily the alternative financing issues we just talked about with the ESPCs, UESCs, PPAs and EULs.

There's a tech validation group that's working to – each of the services has their own engineering laboratory that does technical validation of new products and DOD has a couple of areas, a couple of laboratories where we do our own technical validation. Unfortunately there's not a lot of crosstalk between those and even when there is crosstalk between those, what they find is not always

distributed to the field for execution. So we've developed this technical validation team to look not only at DOD labs but also DOE labs and try to develop a better way for making sure that we're not all looking at the same thing at the same time or that we're not looking at something that somebody else has already looked at and that when we find something that's a viable solution to a problem that we get it out to the field and we execute it.

So a few common issues among our, all of our energy programs or misaligned incentives, I talked previously about the savings not being able to be retained. You know if we could incentivize our installations commanders to save energy today and get money tomorrow, I think that would be a good thing. We just have to figure out how to do that.

Procurement and utilities are paid from different accounts. The money that builds a building is not the money that pays for the energy for the building and the people that are building the building are – I don't want to malign them because I'm one of them in certain cases but you know they're interested in building buildings and getting the most buildings that they can get for the money that they have. They're not too concerned about the energy that's going to be used to sustain those and we've got to crosswalk that. We've got to make that an issue and we're trying to do that through things like LEED silver and the 30% better than ASHRAE and a few other ways.

Believe it or not, right now if a utility offers a rebate for putting in a compact florescent or a solar photovoltaic or anything else, there's no legitimate way for the installation to take that money and use it. They can take it, but it ends up going back to the Treasury, which you may argue is a good thing or a bad thing but again it's not the right incentive. The incentive should be that if I screw in a compact florescent and the power company is going to give me 20 cents, I should use that 20 cents to buy another compact florescent and screw it in and get 20 more cents. It doesn't work that way and we're really working hard with our comptroller to try to make that work right.

Absence of activity base costing, we don't always know what the cost of our decisions are. Again this kind of goes back to the procurement issues. We need to be good on lifecycle cost. We need to figure out that spending an extra $100 for a triple pane window is a good idea because it's going to save us $500 over the life of the building. We don't do a real good job of that but we're working on it. And again that's the lifecycle costing issue. I think

LEED silver is going to help us with that and again, all the services have made a commitment to go to LEED silver on all their new buildings.

So assessment of the DOD energy program, I guess this is my assessment. You can give it a different assessment and tell me what that assessment is if you want to but there's always room for improvement but we think the facilities program is pretty well on track. We're tracking the goals. Our trend lines are good there. There are a few new challenges with EISA '07, primarily the fossil fuel issue.

Non-tactical vehicle program is getting better. When I came on board and this is not my work because the guy before me started it but when I came on board our scorecards were always red. We're still red in the status column but we're starting to get green in progress and that's a good thing because the progress means that we're doing things to help us in that other column. So we're making some improvements on the transportation side. We're looking things like joint basing where we can combine some of our vehicle fleets and hopefully get some commercial infrastructure in there.

We're working aggressively with the petroleum industry and petroleum substitutions. I've had several meetings here at this venue with a couple of petroleum providers that are trying to put in some E85 infrastructure. We're sharing our data with them to show where we need the infrastructure and where it makes sense for them to put it in. And we're definitely pushing the use of alternative fuel where it is available.

Success for the non-tactical vehicle program is going to be reliant upon integrating the alternative fuel availability in our procurement strategy. We really haven't had a procurement strategy previously. We basically just bought them and put them out there. All the services now are taking a little tougher look at – it doesn't do us a lot of good to buy an alternative-fuel vehicle in an area where there's no alternative fuel available so we're starting to move some around a little bit and we're starting to make sure that we try to buy them where they're available. And finally investment in alternative fuels, vehicles and infrastructure, where we can't get that commercial infrastructure, we're going to have to start installing some of it on our own.

Finally, I can't do this presentation without talking a little bit about the Defense Science Board report that came out in February.

That's also available on the web. You can Google it or go to the Defense Science Board web site. This particular report was called *More Fight, Less Fuel*. It had a number of recommendations for facilities in it. I will tell you that a Defense Science Board is an advisory group to the Pentagon. They are not a policy-making group. So everything that they say is not necessarily going to be accepted and/or carried out. But we will have to pay some attention it. We are paying attention to it and we will have to respond to it.

So a couple of the things that they talked about were assessing the risk of our infrastructure and not only the infrastructure that we have but the infrastructure outside our bases that supply us. They talked about islanding, critical infrastructure islanding facilities. I'll tell you that right now the current thought in DOD is that we don't want to island our bases. We don't want to disconnect from the grid. But in certain cases we wanna have the capability to do that.

They talked about developing a comprehensive renewable energy assessment and roadmap. We have some of that. We're working on a little more of that but I'll tell you that this is not a cheap endeavor. It's not an inexpensive endeavor so we're going to have to – if we decide to do a comprehensive one, it's going to cost some money and take some time. The board made a recommendation to up the 30% better than ASHRAE requirement to 50% better than ASHRAE. We may or may not accept this recommendation. I will tell you that the 55% petroleum reduction is probably going to force us towards something that if it's not 50%, it may be more than 50%.

The board recommended that we meter all of our facilities by 2010. I'll tell you that this is not going to happen. It's just not budgeted for. But again, we are working to do that in the out years. They had a recommendation that all MILCON projects be net zero by 2020. Again, the current thought is that this is probably not even possible. There are certain places where you build a facility that you just can't get the renewable energy to power that facility. It's just not feasible. But again, going towards LEED silver or going towards the 55% petroleum reduction, you know we're headed that direction.

All installations net zero by 2025. I'll tell you that I think this is much easier than the MILCON by 2020. It's much easier to do an installation net zero than it is to do a building net zero. So again, we are working towards that. They also recommended that there be a senior energy official responsible for development of policies

and procedures and oversight of their implementation. I'll tell you this one's well above my pay grade so I'm not going to talk a whole lot about it but the current NDAA from the Senate side I believe, has a – it was a House side – okay thank you. From the House side it has a requirement in it to develop or to have a new principal, Deputy Undersecretary for operational energy issues.

If that comes to pass and that position is developed, it remains to be seen whether it will be strictly operational issues, which means the ships, the planes, the forward operating bases or whether it will also include the facilities and non-tactical vehicle transportation issues. Even before that comes along I'll tell you that the Deputy Undersecretary of Defense for Installations and Environment, Mr. Wayne Arny, is very focused on energy right now. He knows that I am essentially the only guy that does it and he's committed to doing what he can to develop a more robust energy office to have a few more people in there that can focus a little more attention on actually developing and implementing policy and tracking the outcomes from it.

[End of Audio]